

VOLUMETRIC PRICING FOR SANITARY SEWER SERVICE IN CALIFORNIA

05.15.2012

Edward Osann



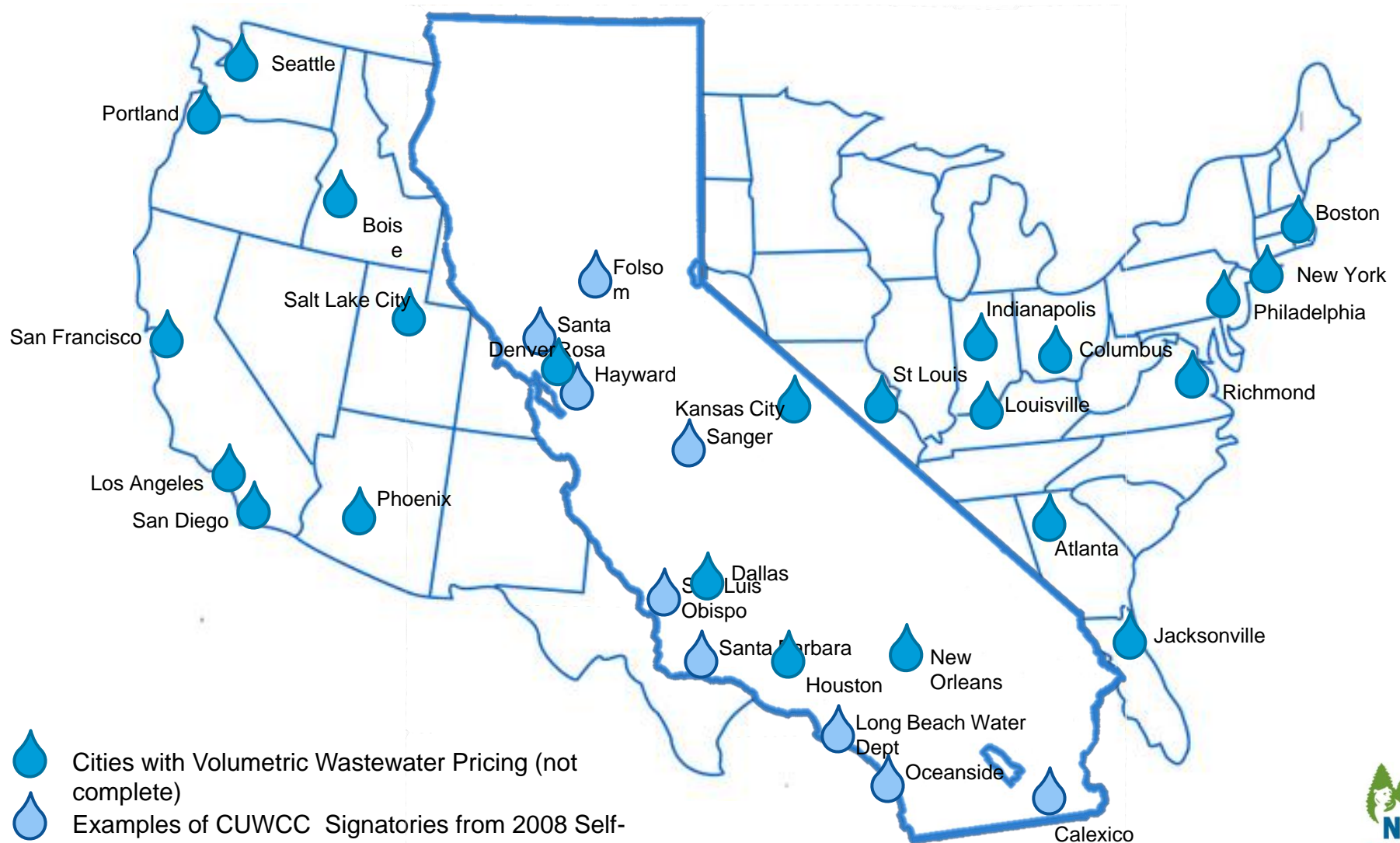
Today's Presentation

- Introduction
- Estimated water savings from volumetric wastewater pricing (Dr. Tom Chesnutt)
- San Luis Obispo example
- Logistics: how potential hurdles to conversion can be overcome (John Farnkopf)
- Suggested implementation mechanisms and next steps

What is Volumetric Wastewater Pricing?

- ❑ Simple concept of billing a customer for wastewater service based on water actually used vs. a flat charge.
- ❑ Based on water meter reading—no need for separate sewer meter—typically from winter water use.
- ❑ Most California households pay for water service based on the use recorded on each household's water meter, but
- ❑ Currently, about **70 percent** of California households that receive sanitary sewer service pay flat, non-volumetric rates.

Sewer Systems Supported by VWWWP



Long-Established Policy Favors VWWP

California Urban Water Conservation Council Memorandum of Understanding --

- Directs signatory water suppliers who also provide sewer service to use conservation pricing (specifically barring flat, non-volumetric rates).
- Water suppliers who do not provide sewer service must make “good faith efforts” to work with local sewer service providers to adopt conservation pricing.

Benefits of Volumetric Pricing in California

Time from Implementation	Water Savings (AFY)	Water Demand Reduction (%)
Short Term (1-4 years)	141,000	3.2
Long Term (10-20 years)	283,000	6.4

- **Equitable pricing**: Customers who conserve water can be rewarded on their sewer and water bills.
- Spurs **investment** in water-saving appliances, fixtures, and repairs throughout the state.

Benefits of Volumetric Wastewater Pricing, cont.

- Benefits wastewater agencies by reducing base flows
 - Helps preserve WW collection and treatment capacity
 - Delays or eliminates the need for costly treatment plant expansion
 - Reduces operating costs and consumption of energy
 - Reduces sewer overflows in capacity-constrained collection systems

Implementation Scenario

January 1,
2013

Policy
resolution
adoption

January 1,
2016

One year
sample
billing

January 1,
2017

VWWP
requiremen
ts go into
effect

January 1,
2018

If need for
more time
is shown

December
31, 2020

20%
reduction in
water
demand
required

Report

Methodology Results

Volumetric Pricing for Sanitary Sewer Service in the State of California

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February 2011

Report available at:
<http://www.cuwcc.org/WorkArea/showcontent.aspx?id=17206>

Report: Methodology

- **Affected Sewer Agencies:** Derive the number of potentially affected sewer agencies from SWRCB wastewater annual reports
- **Revenue/Volumetric Price Impacts:** Translate revenue generation from flat charges to a comparable volumetric price increase
- **Volumetric Potable Water Conservation:** Estimate price-induced water conservation of residential potable water demand using empirical parameters from the economic literature (price elasticities)

Report: Results and Total Water Savings in California

Sum of Residential Revenue at Fixed Charge-Only Agencies	\$2,076,103,380	
Total Est. Residential Use (AFY)	4,428,055	
Est. Short Run Water Savings (AFY)	~141,700	3.2%
Est. Long Run Water Savings (AFY)	~283,400	6.4%

Report: Gallons Per Capita Per Day Savings

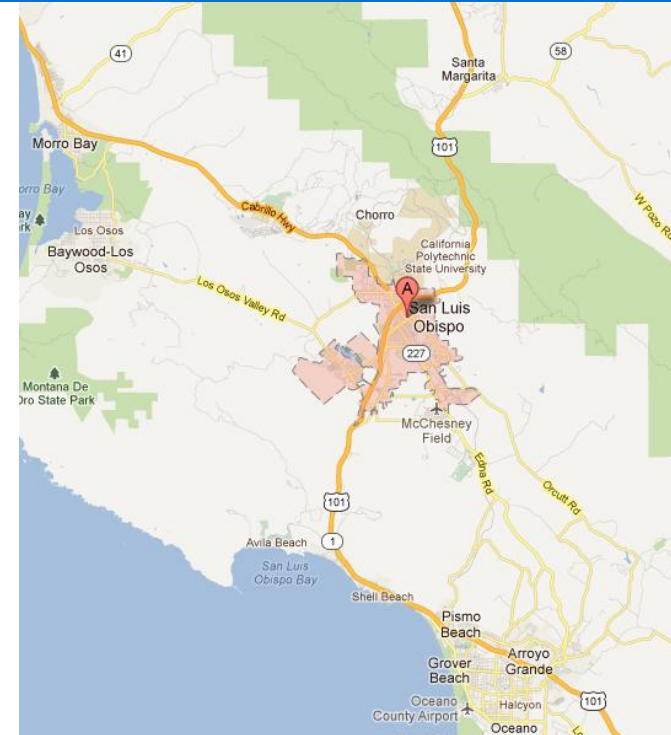
Hydrologic Region	Baseline GPCD (1995-2005, DWR)	Population (2000, DWR)	Demand AFY	GPCD-After, Short Run	GPCD-After, Long Run	2020 Target	Contribution of Short Term Savings
North Coast	165	644,400	119,100	164	163	137	3 %
San Francisco Bay	157	6,105,650	1,073,755	153	150	131	15 %
Central Coast	154	1,459,205	251,716	152	149	123	6 %
South Coast	180	18,223,425	3,674,314	177	173	149	10 %
Sacramento River	253	2,593,110	734,878	247	240	176	8 %
San Joaquin River	248	1,751,010	486,423	245	242	174	4 %
Tulare Lake	285	1,884,675	601,666	277	269	188	8 %
North Lahontan	243	99,035	26,957	242	242	173	1 %
South Lahontan	237	721,490	191,537	237	236	170	De minimis
CALIFORNIA	192	34,088,535	7,331,340	188	185	154	10.5%

2020 Savings May be More or Less

- Factors **decreasing** possible savings by 2020 –
 - ▣ Remaining unmetered water service areas (e.g., Sacramento) not subtracted
 - ▣ Continuation of annual or semi-annual billing may blunt conservation effect
- Factors **increasing** possible savings by 2020 –
 - ▣ Population growth from 2008 to 2020 not estimated
 - ▣ Higher future sewer bills likely to increase customer response
 - ▣ Savings from conversion of commercial accounts not estimated
- Note: Fixed cost component of future rates modeled at 30%
 - ▣ Higher fixed share **decreases** savings; lower share **increases** savings

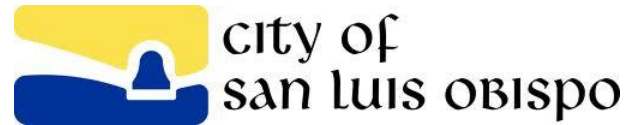
Example: San Luis Obispo

Process
Results



San Luis Obispo

- City converted in 2007
- Volumetric pricing offered a more equitable pricing structure
- Desire to switch to monthly billing (from bi-monthly billing) anyway

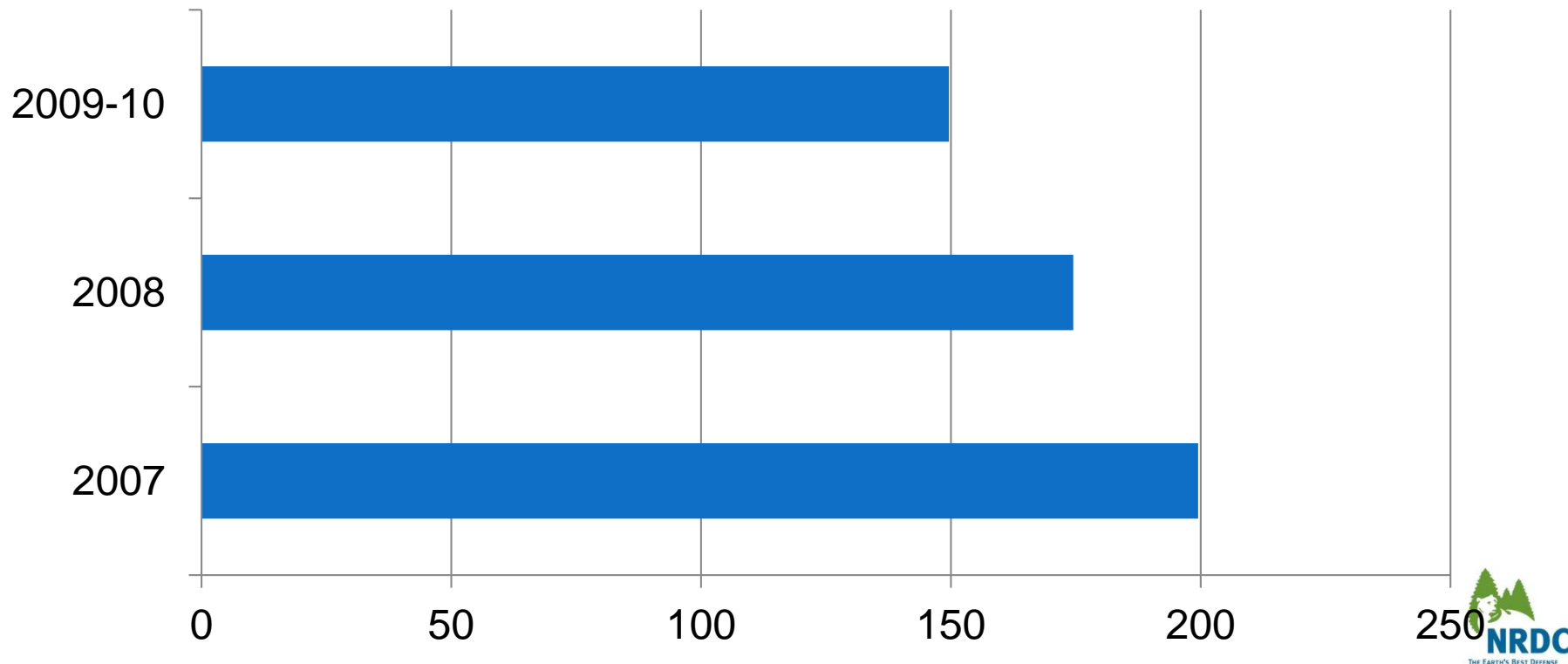


Process

- ❑ Consultant established rate structure with small fixed component and volumetric component
- ❑ Single family residential wastewater bill is based on 100% of the winter (Dec-Feb) water usage
- ❑ Prop. 218 and communication with public
- ❑ Simple software changes to billing system

Results: Reduction in Water Use

Average Winter Water Use in 3 month Period (Gallons/Household/Day)



Logistics

Summary

Billing Based on Flow

Billing Process

Effect on Residential Bi

Data-Sharing



Volumetric Wastewater Pricing: Frequently Asked Questions

1. Will volumetric pricing of wastewater service require the installation of meters on sewer lines, and is that even practical?

No—separate installation of meters on household sewer lines is not necessary, and would not be practical. Residential customers with volumetric sewer rates are billed for sewer service based on the amount of water use shown on the water meter serving the home.

2. How can residential sewer service be billed from the customer's water meter, since so much of the water used at home is used outdoors and does not enter the sanitary sewer system?

Here's how—in areas where landscape irrigation is a significant amount of total water use, as is the case in much of California, it is common to use meter readings for the winter months (when outdoor use is at its lowest) as the basis for the volume charge on the sewer bills for the remainder of the year.

3. If wastewater service is billed from the water meter readings, won't wastewater utility revenues fluctuate from one month to the next depending on the weather, and be mismatched with wastewater system costs, which are much more consistent between months?

Not really—Most California wastewater utilities will find it advantageous to base the volumetric charge on the level of use recorded by the water meter during the winter months. Billing throughout the year will be quite stable because the residential bills can be re-set once a year and need not fluctuate month-to-month.



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Logistics Summary

- Policy should allow:
 - Use of existing water meters
 - Would not require installation of water or sewer meters
 - Local discretion in designing rate structure
 - Use of combinations of fixed and volumetric charges
 - Use of existing billing process and frequency
 - Billing on tax rolls still permitted

Billing Based on Flow

- Many commercial sewer customers are already billed with volumetric wastewater rates
- Residential volumetric wastewater rates are commonly based on winter water use.

Examples:

- 90% of lowest average daily water consumption from previous Oct-April
- 100% of 2 lowest readings from previous Nov-April
- 85% of 2 lowest readings from previous Dec-May

Billing Process

- Agencies that also provide water service
 - Add sewer charge to existing bills
 - Agencies that do not provide water service
 - Acquire meter data from local water supplier/s
 - Add sewer charge to tax roll
- Or
- Make arrangements to add sewer charge to water supplier's bill

Effect of Conversion on Residential Sewer Bills

- ❑ Median customer will initially pay slightly less
- ❑ Above-average water users would see a bill increase (one-third of total residences)
- ❑ Below-average water user would probably see a bill decrease
- ❑ Customers can take action to lower their bills by conserving water

Data-Sharing

- Relatively simple software upgrades in many cases
 - More complex upgrades would cost more, but benefits far outweigh cost.
 - Ongoing administration costs are pennies a month.
- Water suppliers have obligation to cooperate with wastewater agencies to facilitate conversion
 - Required of CUWCC signatories (MOU)
 - Required of all water providers seeking financial assistance (AB 1420)

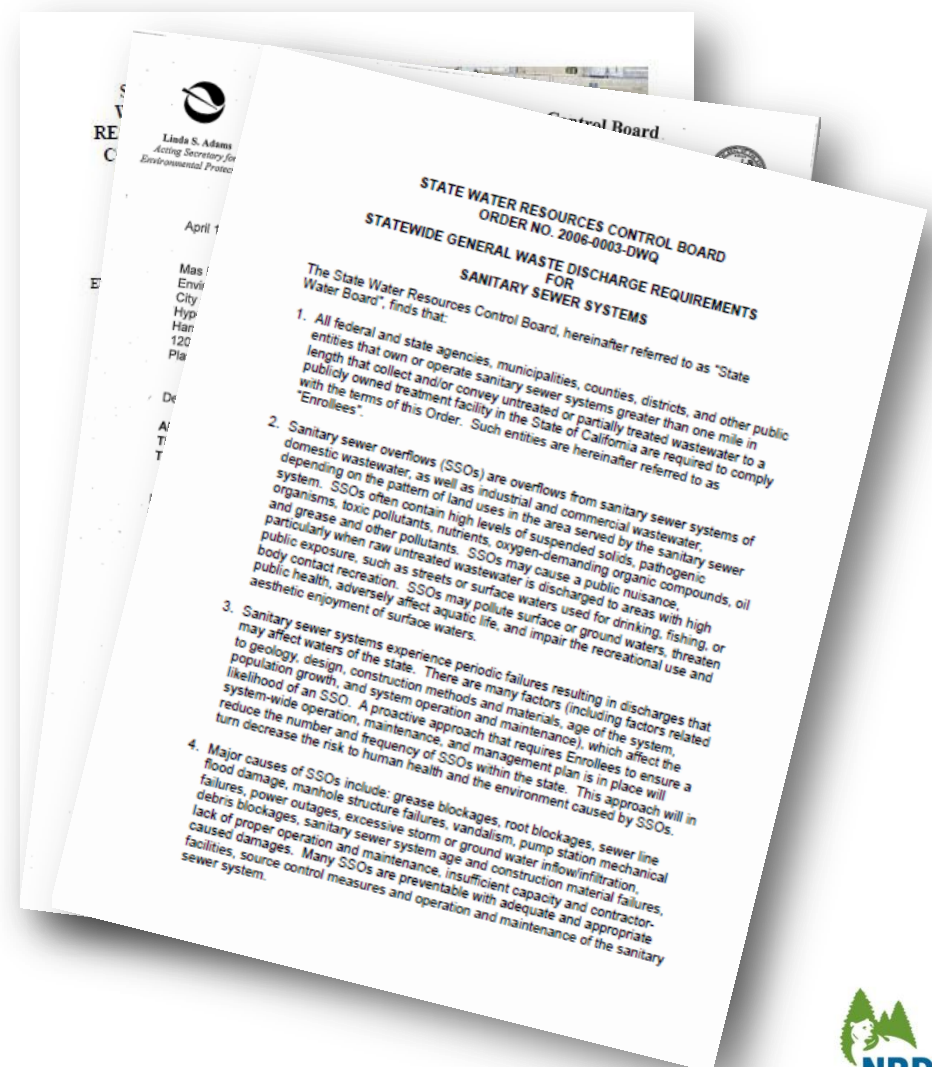
Implementation Mechanisms

Proposal Overview

Next Steps

Proposal Overview: Policy Resolution

- SRF Funding
- NPDES Permits
- Sanitary Sewer System General Waste Discharge Requirements
- Water rights permits-supplier duty to share information



Proposed Next Steps

June-August
2012

Stakeholder
meetings

September
2012

Staff and
stakeholders
update Board

January 1,
2013

Adoption of
policy
resolution

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